

Abstract

[0033] A wireless audio transmission and reception system includes a pulse width amplifier, an up-converter, a transmitter, a receiver, a down-converter, an integrator, and a power amplifier to transfer an analog signal to a transducer such as a speaker. The pulse width amplifier receives an analog signal and modulates a pulse width of a timing signal with the analog signal. The pulse width of the timing signal is modulated such that the pulse width is proportional to the amplitude of the analog signal, and provides a pulse width modulated signal. The up-converter is in communication with the pulse width amplifier to receive the pulse width modulated signal and convert the pulse width modulated signal to a modulated carrier signal. The transmitter is in communication with the up-converter to receive the modulated carrier signal and to transfer the modulated carrier signal wirelessly. The receiver receives the modulated carrier signal and transfers the modulated carrier signal to the down-converter that extracts the pulse width modulated signal from the modulated carrier signal. The down-converter transfers the extracted pulse width modulated signal to the integrator, which then restores the analog signal. The integrator transfers the recovered analog signal to the power amplifier for amplification and transfer to the transducer or speaker.